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PATENT
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: : Examining Group: 2644
Harrow et al. : Examiner: R.P. Singh
Serial No.: 09/803,551 : Date: December 2, 2002
Filed: March 9, 2001 :
For: Transmit/Receive Arbitrator

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AMENDMENT

Honorable Commissioner of Patents and Trademarks,
Washington, D.C. 20231

SIR:

In response to the Office Action dated October 23, 2002, kindly amend the
above-identified application as follows.

In the description:

Please change the paragraph beginning at page 2, line 31, to read as follows.

Typically, these systems are implemented in digital form and manipulate
large amounts of data in analyzing the input signals. The Sacca patent discloses
an analog system using an amplifier with hysteresis to avoid dithering, which, to
a large extent, is unavoidable with a simple amplitude comparison. On the other
hand, an extensive computational analysis to determine relative power takes too
long. The Eryilmaz patent attempts to simplify the amount of computation but

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Q1 still requires manipulation of significant amounts of data. All these systems manipulate amplitude data, or data derived from amplitude, up to the point of making a binary value signal indicating receive or transmit.

Please change the paragraph beginning at page 5, line 9, to read as follows.

Q2 -- In accordance with the invention, register 10 is incremented or decremented depending upon a three bit word representing the states of the signals on the microphone input and the line input to a telephone (not shown in FIG. 1). The direction of the count is determined by whether or not the signal on the microphone input is larger than the signal on the line input. Thus, entering region 11 implies a relatively consistent signal on the microphone input and entering region 16 implies a relatively consistent signal on the line input. The size of a region defines how much variation is tolerated before one exits the region. The regions need not be symmetrical about zero. Thus, moving threshold 13 further away from zero than threshold 17 biases the system to favor the line input. Similarly, making region 11 smaller than region 16 biases the system to favor the line input. Register 10 accumulates data for a period of time defined as a window. Data in a window and in successive windows contribute to the decision on whether to receive or transmit. --

Please change the paragraph beginning at page 5, line 27, to read as follows.

Q3 Comparator 25 is coupled to the outputs of amplifiers 23 and 24 and provides an indication of which signal is the larger. Comparator 26 compares the rectified line input signal to a threshold value and provides a signal indicating which is larger. Comparator 27 compares the rectified microphone input signal to another threshold value and provides a signal indicating which is larger. The outputs of comparators 25, 26, and 27 are coupled to D-flip-flops 31, 32, and 33, which latch the data on each clock pulse, e.g. on line 34 to D-flip-flop 33. In one embodiment of the invention, the input signals are sampled at 44.1 kHz. Other sampling rates could be used instead.

Please change the paragraph beginning at page 7, line 10, to read as follows.